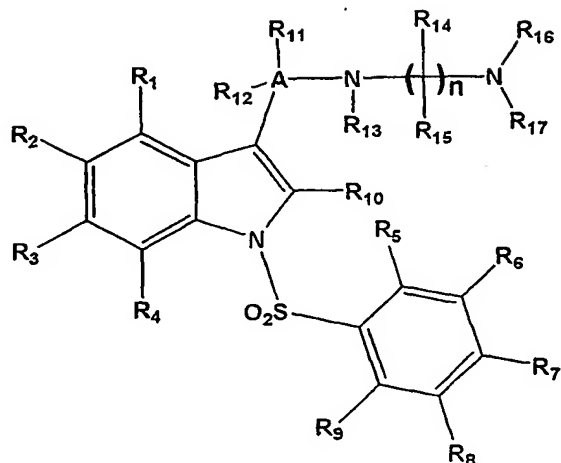


## Claims:

1. A compound of the general formula (I),



General Formula (I)

its derivative, its analog, its tautomeric form, its stereoisomer, its geometric form, its N-oxide, its polymorph, its pharmaceutically acceptable salt, or its pharmaceutically acceptable solvate,

wherein A may be  $-CH_2-$ ,  $-C=O$  or  $-SO_2-$ ;  $R_{11}$  and  $R_{12}$  refer to substitutions on the carbon whenever A is  $CH_2$ ;

Wherein,  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$ ,  $R_{14}$  and  $R_{15}$  may be same or different and each independently represent hydrogen, halogen, oxo, thio, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups selected from linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkynyl,  $(C_3-C_7)$ cycloalkyl,  $(C_3-C_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl,  $(C_1-C_{12})$ alkoxy, cyclo $(C_3-C_7)$ alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxy carbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxy carbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxy carbonylamino, aralkyloxy carbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino,

hydrazino, hydroxylamino, carboxylic acid and its derivatives, sulfonic acids and its derivatives, phosphoric acid and its derivatives; or the adjacent groups like R<sub>1</sub> and R<sub>2</sub> or R<sub>2</sub> and R<sub>3</sub> or R<sub>3</sub> and R<sub>4</sub> or R<sub>5</sub> and R<sub>6</sub> or R<sub>6</sub> and R<sub>7</sub> or R<sub>7</sub> and R<sub>8</sub> or R<sub>8</sub> and R<sub>9</sub> together with carbon atoms to which they are attached may form a five or a six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R<sub>11</sub> and R<sub>12</sub> together with the carbon atoms to which they are attached may form a three to six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms;

R<sub>13</sub>, R<sub>16</sub> and R<sub>17</sub> may be same or different and each independently represents Hydrogen, substituted or unsubstituted groups selected from linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, heterocyclylalkyl; optionally R<sub>13</sub> along with either R<sub>16</sub> or R<sub>17</sub> and the two nitrogen atoms may form a 5, 6 or 7-membered heterocyclic ring, which may be further substituted with R<sub>14</sub> and R<sub>15</sub>, and may have either one, two or three double bonds;

"n" is an integer ranging from 1 to 4, wherein the carbon chains which "n" represents may be either linear or branched.

2. A compound according to Claim -1 which is selected from :

1-Benzenesulfonyl-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(4-Methylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(4-Bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(4-Fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(4-Methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(4-Isopropylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(2-Bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;  
 1-(2-Bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole hydrochloride salt;  
 1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-5-nitro-1H-indole;

- 4,5,6-Trichloro-1-benzenesulfonyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
4,5,6-Trichloro-1-(4-methylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(4-Bromobenzenesulfonyl)-4,5,6-trichloro-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
5 1-(4-Isopropylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(2-Bromobenzenesulfonyl)-4,5,6-trichloro-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
10 1-(2-Bromo-4-methoxybenzenesulfonyl)-4,5,6-trichloro-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-Benzenesulfonyl-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(4-Methylbenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(4-Bromobenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
15 1-(4-Isopropylbenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(2-Bromobenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(2-Bromo-4-methoxybenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
20 1-(2-Bromo-4-methoxybenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole hydrochloride salt;  
1-(4-methoxybenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
1-(4-Fluorobenzenesulfonyl)-5-methoxy-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
25 5-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
5-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole hydrochloride salt;  
5-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole maleate salt;  
30 5-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole citrate salt;  
5-Bromo-1-(4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
5-Bromo-1-(benzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
5-Bromo-1-(4-methylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
35 5-Bromo-1-(4-bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
5-Bromo-1-(4-isopropylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

5-Bromo-1-(2-bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;  
5-Bromo-1-(2-bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole  
hydrochloride salt;

5-Bromo-1-(2-bromo-4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-  
5 1H-indole;

4-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

4-Bromo-1-(4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

4-Bromo-1-(4-isopropylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

(1-Benzenesulfonyl-1H-indol-3-yl)-(4-methylpiperazin-1-yl)methanone;

10 [1-(4-Methylbenzenesulfonyl)-1H-indol-3-yl]-(4-methylpiperazin-1-yl)methanone;

[1-(4-Isopropylbenzenesulfonyl)-1H-indol-3-yl]-(4-methylpiperazin-1-yl)methanone;

[1-(2-Bromobenzenesulfonyl)-1H-indol-3-yl]-(4-methylpiperazin-1-yl)methanone;

[1-(2-Bromo-4-methoxybenzenesulfonyl)-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

15 (1-Benzenesulfonyl-5-nitro-1H-indol-3-yl)-(4-methylpiperazin-1-yl)methanone;

[1-(4-Methylbenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

[1-(4-Fluorobenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

20 [1-(4-Bromobenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

[1-(4-Isopropylbenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

[1-(2-Bromobenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
25 yl)methanone;

[1-(4-Methoxybenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

[1-(2-Bromo-4-methoxybenzenesulfonyl)-5-nitro-1H-indol-3-yl]-(4-methylpiperazin-1-  
yl)methanone;

30 1-Benzenesulfonyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(4-Methylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(4-Fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(4-Bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(4-Isopropylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

35 1-(2-Bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(2-Bromobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole

hydrochloride salt;

1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole

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hydrochloride salt;

1-(4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(2-Bromo-4-methoxybenzenesulfonyl)-5-chloro-2-methyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

5-Chloro-1-(4-fluorobenzenesulfonyl)-2-methyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

10

1-(4-Bromobenzenesulfonyl)-5-chloro-2-methyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

5-Chloro-1-(4-Isopropylbenzenesulfonyl)-2-methyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

15

1-Benzenesulfonyl-5-chloro-2-phenyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

5-Chloro-1-(4-methylbenzenesulfonyl)-2-phenyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(Benzenesulfonyl)-5-fluoro-2-phenyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole ;

5-Fluoro-1-(4-methylbenzenesulfonyl)-2-phenyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

20

1-(4-Bromobenzenesulfonyl)-5-chloro-2-phenyl-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(2-Bromobenzenesulfonyl)-5-cyano-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

5-Cyano-1-(4-methoxybenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

25

5-Cyano-1-(4-fluorobenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

1-(4-Bromobenzenesulfonyl)-5-cyano-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

5-Cyano-1-(4-Isopropylbenzenesulfonyl)-3-(4-methylpiperazin-1-ylmethyl)-1H-indole;

N-(1-(4-Fluorobenzenesulfonyl)-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine;

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N-(1-(4-Fluorobenzenesulfonyl)-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine hydrochloride salt;

N-(1-(4-Bromobenzenesulfonyl)-5-bromo-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine;

N-(1-(4-Bromobenzenesulfonyl)-5-bromo-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine hydrochloride salt;

35

N-(5-Bromo-1-(4-methoxybenzenesulfonyl)-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine;

N-(1-(4-Methoxybenzenesulfonyl)-5-nitro-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine;

5 N-(1-(4-Methoxybenzenesulfonyl)-5-nitro-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine hydrochloride salt;

N-(1-(2-Bromobenzenesulfonyl)-5-bromo-1H-indol-3-yl)methyl-N,N',N'-trimethylethylene-1,2-diamine;

10 1-(2-Bromobenzenesulfonyl)-3-(4-(3-chlorobenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

1-(4-Methoxybenzenesulfonyl)-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

15 1-(4-Isopropylbenzenesulfonyl)-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

5-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

20 5-Bromo-1-(4-methoxybenzenesulfonyl)-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

5-Bromo-1-(4-isopropylbenzenesulfonyl)-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

1-(4-Fluorobenzenesulfonyl)-5-methoxy-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

25 1-(4-Fluorobenzenesulfonyl)-5-methoxy-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole hydrochloride salt ;

1-(4-Methoxybenzenesulfonyl)-5-methoxy-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

30 1-(4-Isopropylbenzenesulfonyl)-5-methoxy-3-(4-(2-methoxybenzene-1-yl)piperazin-1-ylmethyl)-1H-indole;

1-(4-Fluorobenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;

1-(4-Methoxybenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;

1-(4-Isopropylbenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;

1-(2-Bromobenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;

35 1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;

- 5-Bromo-1-(4-fluorobenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;
- 5-Bromo-1-(4-methoxybenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;
- 5 5-Bromo-1-(4-isopropylbenzenesulfonyl)-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;
- 1-(4-Fluorobenzenesulfonyl)-5-methoxy-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;
- 1-(4-Methoxybenzenesulfonyl)-5-methoxy-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;
- 10 1-(4-Isopropylbenzenesulfonyl)-5-methoxy-3-(4-(pyridin-2-yl)piperazin-1-ylmethyl)-1H-indole;
- 1-(4-Isopropylbenzenesulfonyl)-5-methoxy-3-(4-(benzyl)piperazin-1-ylmethyl)-1H-indole;
- 15 1-(4-Methoxybenzenesulfonyl)-5-methoxy-3-(4-(benzyl)piperazin-1-ylmethyl)-1H-indole;
- 1-(4-Isopropylbenzenesulfonyl)-3-(4-(benzyl)piperazin-1-ylmethyl)-1H-indole;
- 1-(4-Methoxybenzenesulfonyl)-3-(4-(benzyl)piperazin-1-ylmethyl)-1H-indole;
- 1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4-(benzyl)piperazin-1-ylmethyl)-1H-indole;
- 20 1-(Benzenesulfonyl)-3-(4-(benzyl)piperazin-1-ylmethyl)-1H-indole;
- 1-(4-Methoxybenzenesulfonyl)-3-2-[1,4]Diazepan-1-ylmethyl-1H-indole;
- (R,S) 1-(1-Benzenesulfonyl-indol-3-yl)-1-(4-methylpiperazin-1-yl)ethane;
- (R) 1-(1-Benzenesulfonyl-indol-3-yl)-1-(4-methylpiperazin-1-yl)ethane;
- 25 (S) 1-(1-Benzenesulfonyl-indol-3-yl)-1-(4-methylpiperazin-1-yl)ethane;
- (R,S) 1-[1-(4-Methylbenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (R) 1-[1-(4-Methylbenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (S) 1-[1-(4-Methylbenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (R,S) 1-[1-(4-Methoxybenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- 30 (R) 1-[1-(4-Methoxybenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (S) 1-[1-(4-Methoxybenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (R,S) 1-[1-(4-Isopropylbenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (R) 1-[1-(4-Isopropylbenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- (S) 1-[1-(4-Isopropylbenzenesulfonyl)indol-3-yl]-1-(4-methylpiperazin-1-yl)ethane;
- 35 1-(4-Fluorobenzenesulfonyl)-1H-indole-3-carboxylic acid N-(N,N-dimethylaminoethyl)-N-methylamide;

1-(4-Methoxybenzenesulfonyl)-1H-indole-3-carboxylic acid N-(N,N-dimethylaminoethyl)-N-methylamide;

1-(4-Isopropylbenzenesulfonyl)-1H-indole-3-carboxylic acid N-(N',N'-dimethylaminoethyl)-N-methylamide;

5 (R,S)  $\alpha$ -[1-(4-Methoxybenzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)acetonitrile;

(R)  $\alpha$ -[1-(4-Methoxybenzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)acetonitrile;

10 (S)  $\alpha$ -[1-(4-Methoxybenzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)acetonitrile;

(R,S)  $\alpha$ -[1-(Benzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)acetonitrile;

(R)  $\alpha$ -[1-(Benzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)acetonitrile;

(S)  $\alpha$ -[1-(Benzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)acetonitrile;

15 (R,S)  $\alpha$ -[1-(4-Isopropylbenzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)-acetonitrile;

(R)  $\alpha$ -[1-(4-Isopropylbenzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)-acetonitrile;

(S)  $\alpha$ -[1-(4-Isopropylbenzenesulfonyl)-1H-indol-3-yl]- $\alpha$ -(4-methylpiperazin-1-yl)-acetonitrile;

20 1-(Benzenesulfonyl)-3-(4-(benzyloxycarbonyl)-piperazin-1-ylmethyl)-1H-indole;

1-(Benzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole;

1-(4-Methoxybenzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole

1-(4-Isopropylbenzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole

1-(2-Bromo-4-methoxybenzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole

25 5-Bromo-1-(benzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole;

5-Bromo-1-(4-methoxybenzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole

5-Bromo-1-(4-isopropylbenzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole

5-Bromo-1-(2-bromo-4-methoxybenzenesulfonyl)-3-(4H-piperazin-1-ylmethyl)-1H-indole

1-[[1-(4-Isopropylbenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

30 1-[[1-(2-Bromo-4-methoxybenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

1-[[1-(4-methylbenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

1-[[5-Bromo-1-(4-Methoxybenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

1-[[5-Bromo-1-(4-Isopropylbenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

1-[[5-Bromo-1-(2-Bromo-4-methoxybenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

35 1-[[5-Bromo-1-(4-methylbenzenesulfonyl)-indol-3-yl]methyl][1,4]diazepane

and their pharmaceutically acceptable salts, polymorphs and solvates.



3. A pharmaceutical composition comprising either of a pharmaceutically acceptable carrier, diluent, excipients or solvate along with a therapeutically effective amount of a compound according to Claim-1, its derivatives, its analogs, its tautomeric forms, its stereoisomers, its geometric forms, its N-oxides, its polymorphs, its pharmaceutically acceptable salts, or its pharmaceutically acceptable solvates.
4. A pharmaceutical composition according to Claim-3, in the form of a tablet, capsule, powder, syrup, injectible, solution or suspension.
5. Use of compound of general formula (I), as defined in Claim-1 or a pharmaceutical composition as defined in Claim-3 for preparing medicaments.
6. Use of compound of general formula (I), as defined in Claim-1 or a pharmaceutical composition as defined in Claim-3 for the treatment where a modulation of 5-HT activity is desired.
7. Use of a compound as claimed in Claim-1 for the manufacture of a medicament for the treatment and/or prevention of clinical conditions for which a selective action on 5-HT receptors is indicated.
8. Use of a compound as claimed in Claim-1 for the treatment and/or prevention of clinical conditions such as anxiety, depression, convulsive disorders, obsessive-compulsive disorders, migraine headache, cognitive memory disorders, ADHD (Attention Deficient Disorder/ Hyperactivity Syndrome), personality disorders, psychosis, paraphrenia, psychotic depression, mania, schizophrenia, schizophreniform disorders, withdrawal from drug abuse, panic attacks, sleep disorders and also disorders associated with spinal trauma and /or head injury.
9. Use of a compound as claimed in Claim-1 for the treatment of mild cognitive impairment and other neurodegenerative disorders like Alzheimer's disease, Parkinsonism and Huntington's chorea.
10. Use of a compound as claimed in Claim-1 for the treatment of certain GI (Gastrointestinal) disorders such as IBS (Irritable bowel syndrome) or chemotherapy induced emesis.

11. Use of a compound as claimed in Claim-1 to reduce morbidity and mortality associated with the excess weight.
- 5 12. Use of a radiolabelled compound as claimed in Claim-1, as a diagnostic tool for modulating 5-HT receptor function.
13. Use of a compound as claimed in Claims 1 in combination with a 5-HT re-uptake inhibitor, and / or a pharmaceutically acceptable salt thereof.
- 10 14. A compound of the general formula (1), its derivatives, its analogs, its tautomeric forms, its stereoisomers, its polymorphs, its pharmaceutically acceptable salts and its pharmaceutically acceptable solvates for preparing a medicament.
- 15 15. A method for the treatment and/or prophylaxis of clinical conditions such as anxiety, convulsive disorders, obsessive-compulsive disorders, migraine headache, cognitive memory disorders, ADHD (Attention Deficient Disorder/ Hyperactivity Syndrome), personality disorders, psychosis, paraphrenia, psychotic depression, mania, schizophrenia, schizophreniform disorders, withdrawal from drug abuse, panic attacks, sleep disorders and also disorders associated with spinal trauma and /or head injury which comprises administering to a patient in need thereof, an effective amount of a compound of general formula (I) as claimed in Claim-1.
- 20 16. A method for the treatment and/or prophylaxis of mild cognitive impairment and other neurodegenerative disorders like Alzheimer's disease, Parkinsonism and Huntington's chorea which comprises administering to a patient in need thereof, an effective amount of a compound of general formula (I) as claimed in Claim-1.
- 25 17. A method for the treatment of certain GI (Gastrointestinal) disorders such as IBS (Irritable bowel syndrome) or chemotherapy induced emesis using a compound of general formula (I) as claimed in Claim-1.
- 30 18. A method to reduce morbidity and mortality associated with the excess weight using a compound of general formula (I) as claimed in Claim-1.
- 35 19. A process for the preparation of compound of formula (I)

wherein A may be  $-\text{CH}_2-$ ,  $-\text{C}=\text{O}$  or  $-\text{SO}_2-$ ;  $\text{R}_{11}$  and  $\text{R}_{12}$ , refer to substitutions on the carbon whenever A is  $\text{CH}_2$ ;

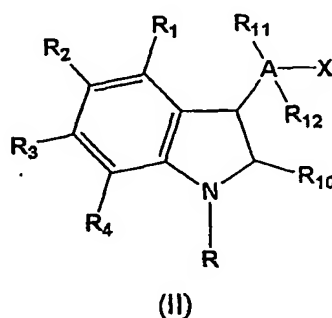
5       Wherein,  $\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$ ,  $\text{R}_6$ ,  $\text{R}_7$ ,  $\text{R}_8$ ,  $\text{R}_9$ ,  $\text{R}_{10}$ ,  $\text{R}_{11}$ ,  $\text{R}_{12}$ ,  $\text{R}_{14}$  and  $\text{R}_{15}$  may be same or different and each independently represent hydrogen, halogen, oxo, thio, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups selected from linear or branched  $(\text{C}_1-\text{C}_{12})$ alkyl,  $(\text{C}_2-\text{C}_{12})$ alkenyl,  $(\text{C}_2-\text{C}_{12})$ alkynyl,  $(\text{C}_3-\text{C}_7)$ cycloalkyl,  $(\text{C}_3-\text{C}_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl,   
10        $(\text{C}_1-\text{C}_{12})$ alkoxy, cyclo $(\text{C}_3-\text{C}_7)$ alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl,   
15       aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino, carboxylic acid and its derivatives, sulfonic acids and its   
20       derivatives, phosphoric acid and its derivatives; or the adjacent groups like  $\text{R}_1$  and  $\text{R}_2$  or  $\text{R}_2$  and  $\text{R}_3$  or  $\text{R}_3$  and  $\text{R}_4$  or  $\text{R}_5$  and  $\text{R}_6$  or  $\text{R}_6$  and  $\text{R}_7$  or  $\text{R}_7$  and  $\text{R}_8$  or  $\text{R}_8$  and  $\text{R}_9$  together with carbon atoms to which they are attached may form a five or a six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or   
25       "Selenium" and combinations of double bond and heteroatoms; or  $\text{R}_{11}$  and  $\text{R}_{12}$  together with the carbon atoms to which they are attached may form a three to six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms;

30        $\text{R}_{13}$ ,  $\text{R}_{16}$  and  $\text{R}_{17}$  may be same or different and each independently represents Hydrogen, substituted or unsubstituted groups selected from linear or branched  $(\text{C}_1-\text{C}_{12})$ alkyl,  $(\text{C}_2-\text{C}_{12})$ alkenyl,  $(\text{C}_2-\text{C}_{12})$ alkynyl,  $(\text{C}_3-\text{C}_7)$ cycloalkyl,  $(\text{C}_3-\text{C}_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, heterocyclylalkyl; optionally  $\text{R}_{13}$    
35       along with either  $\text{R}_{16}$  or  $\text{R}_{17}$  and the two nitrogen atoms may form a 5, 6 or 7-

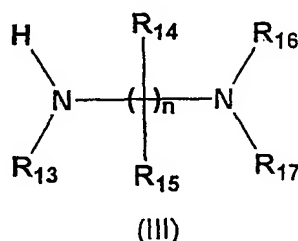
membered heterocyclic ring, which may be further substituted with  $R_{14}$  and  $R_{15}$ , and may have either one, two or three double bonds;

"n" is an integer ranging from 1 to 4, wherein the carbon chains which "n" represents may be either linear or branched.

which comprises reacting a compound of formula (II) given below,



wherein all the symbols are as defined above, and X is halogen, preferably chloro, bromo or iodo; with a compound of formula (III) or its acid addition salt,



wherein all the symbols are as defined above.

20. A process for the preparation of compound of formula (I) (

wherein A may be  $-\text{CH}_2-$ ,  $-\text{C}=\text{O}$  or  $-\text{SO}_2-$ ;  $R_{11}$  and  $R_{12}$  refer to substitutions on the carbon whenever A is  $\text{CH}_2$ ;

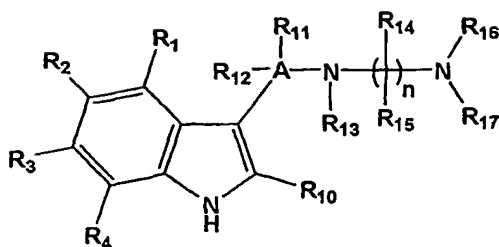
Wherein,  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$ ,  $R_{14}$  and  $R_{15}$  may be same or different and each independently represent hydrogen, halogen, oxo, thio, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups selected from linear or branched  $(\text{C}_1-\text{C}_{12})$ alkyl,  $(\text{C}_2-\text{C}_{12})$ alkenyl,  $(\text{C}_2-\text{C}_{12})$ alkynyl,  $(\text{C}_3-\text{C}_7)$ cycloalkyl,  $(\text{C}_3-\text{C}_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl,

(C<sub>1</sub>-C<sub>12</sub>)alkoxy, cyclo(C<sub>3</sub>-C<sub>7</sub>)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino, carboxylic acid and its derivatives, sulfonic acids and its derivatives, phosphoric acid and its derivatives; or the adjacent groups like R<sub>1</sub> and R<sub>2</sub> or R<sub>2</sub> and R<sub>3</sub> or R<sub>3</sub> and R<sub>4</sub> or R<sub>5</sub> and R<sub>6</sub> or R<sub>6</sub> and R<sub>7</sub> or R<sub>7</sub> and R<sub>8</sub> or R<sub>8</sub> and R<sub>9</sub> together with carbon atoms to which they are attached may form a five or a six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R<sub>11</sub> and R<sub>12</sub> together with the carbon atoms to which they are attached may form a three to six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms;

R<sub>13</sub>, R<sub>16</sub> and R<sub>17</sub> may be same or different and each independently represents Hydrogen, substituted or unsubstituted groups selected from linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, heterocyclalkyl; optionally R<sub>13</sub> along with either R<sub>16</sub> or R<sub>17</sub> and the two nitrogen atoms may form a 5, 6 or 7-membered heterocyclic ring, which may be further substituted with R<sub>14</sub> and R<sub>15</sub>, and may have either one, two or three double bonds;

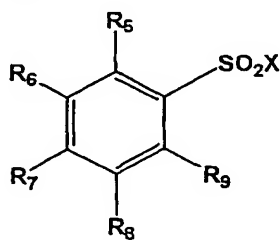
"n" is an integer ranging from 1 to 4, wherein the carbon chains which "n" represents may be either linear or branched.

which comprises reacting a compound of formula (IV) given below,



(IV)

wherein all the symbols are as defined earlier with a compound of formula (V),



(V)

where all the symbols are as defined earlier, and X is halogen, preferably chloro, bromo or iodo.

21. A process for the preparation of compound of formula (I) according to claim-1

wherein A may be  $-\text{CH}_2-$ ,  $-\text{C}=\text{O}$  or  $-\text{SO}_2-$ ;  $\text{R}_{11}$  and  $\text{R}_{12}$ , refer to substitutions on the carbon whenever A is  $\text{CH}_2$ ;

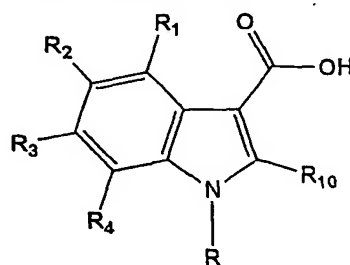
Wherein,  $\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$ ,  $\text{R}_6$ ,  $\text{R}_7$ ,  $\text{R}_8$ ,  $\text{R}_9$ ,  $\text{R}_{10}$ ,  $\text{R}_{11}$ ,  $\text{R}_{12}$ ,  $\text{R}_{14}$  and  $\text{R}_{15}$  may be same or different and each independently represent hydrogen, halogen, oxo, thio, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups selected from linear or branched  $(\text{C}_1-\text{C}_{12})$ alkyl,  $(\text{C}_2-\text{C}_{12})$ alkenyl,  $(\text{C}_2-\text{C}_{12})$ alkynyl,  $(\text{C}_3-\text{C}_7)$ cycloalkyl,  $(\text{C}_3-\text{C}_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl,  $(\text{C}_1-\text{C}_{12})$ alkoxy, cyclo $(\text{C}_3-\text{C}_7)$ alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxy carbonyl, aralkoxy carbonyl, heterocyclalkoxy carbonyl, heteroaryloxy carbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxy carbonylamino, aralkoxy carbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino, carboxylic acid and its derivatives, sulfonic acids and its

derivatives, phosphoric acid and its derivatives; or the adjacent groups like R<sub>1</sub> and R<sub>2</sub> or R<sub>2</sub> and R<sub>3</sub> or R<sub>3</sub> and R<sub>4</sub> or R<sub>5</sub> and R<sub>6</sub> or R<sub>6</sub> and R<sub>7</sub> or R<sub>7</sub> and R<sub>8</sub> or R<sub>8</sub> and R<sub>9</sub> together with carbon atoms to which they are attached may form a five or a six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R<sub>11</sub> and R<sub>12</sub> together with the carbon atoms to which they are attached may form a three to six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms;

R<sub>13</sub>, R<sub>16</sub> and R<sub>17</sub> may be same or different and each independently represents Hydrogen, substituted or unsubstituted groups selected from linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, heterocyclalkyl; optionally R<sub>13</sub> along with either R<sub>16</sub> or R<sub>17</sub> and the two nitrogen atoms may form a 5, 6 or 7-membered heterocyclic ring, which may be further substituted with R<sub>14</sub> and R<sub>15</sub>, and may have either one, two or three double bonds;

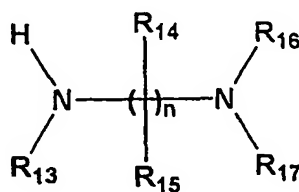
"n" is an integer ranging from 1 to 4, wherein the carbon chains which "n" represents may be either linear or branched.

which comprises reacting a compound of formula (VI).



(VI)

wherein all the symbols are as defined earlier, with a compound of formula (III) or its acid addition salt,



(III)

wherein all the symbols are as defined above ;

22. A process for the preparation of compound of formula (I) according to Claim-1

5

wherein A may be  $-\text{CH}_2-$ ,  $-\text{C}=\text{O}$  or  $-\text{SO}_2-$ ;  $\text{R}_{11}$  and  $\text{R}_{12}$ , refer to substitutions on the carbon whenever A is  $\text{CH}_2$ ;

10

Wherein,  $\text{R}_1$ ,  $\text{R}_2$ ,  $\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$ ,  $\text{R}_6$ ,  $\text{R}_7$ ,  $\text{R}_8$ ,  $\text{R}_9$ ,  $\text{R}_{10}$ ,  $\text{R}_{11}$ ,  $\text{R}_{12}$ ,  $\text{R}_{14}$  and  $\text{R}_{15}$  may be same or different and each independently represent hydrogen, halogen, oxo, thio, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups selected from linear or branched  $(\text{C}_1-\text{C}_{12})$ alkyl,  $(\text{C}_2-\text{C}_{12})$ alkenyl,  $(\text{C}_2-\text{C}_{12})$ alkynyl,  $(\text{C}_3-\text{C}_7)$ cycloalkyl,  $(\text{C}_3-\text{C}_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl,  $(\text{C}_1-\text{C}_{12})$ alkoxy, cyclo $(\text{C}_3-\text{C}_7)$ alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino, carboxylic acid and its derivatives, sulfonic acids and its derivatives, phosphoric acid and its derivatives; or the adjacent groups like  $\text{R}_1$  and  $\text{R}_2$  or  $\text{R}_2$  and  $\text{R}_3$  or  $\text{R}_3$  and  $\text{R}_4$  or  $\text{R}_5$  and  $\text{R}_6$  or  $\text{R}_6$  and  $\text{R}_7$  or  $\text{R}_7$  and  $\text{R}_8$  or  $\text{R}_8$  and  $\text{R}_9$  together with carbon atoms to which they are attached may form a five or a six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or  $\text{R}_{11}$  and  $\text{R}_{12}$  together with the carbon atoms to which they are attached may form a three to six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms;

35

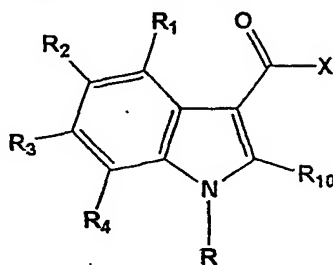
$\text{R}_{13}$ ,  $\text{R}_{16}$  and  $\text{R}_{17}$  may be same or different and each independently represents Hydrogen, substituted or unsubstituted groups selected from linear or branched  $(\text{C}_1-$



$C_{12}$ )alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkynyl,  $(C_3-C_7)$ cycloalkyl,  $(C_3-C_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, heterocyclalkyl; optionally  $R_{13}$  along with either  $R_{16}$  or  $R_{17}$  and the two nitrogen atoms may form a 5, 6 or 7-membered heterocyclic ring, which may be further substituted with  $R_{14}$  and  $R_{15}$ , and may have either one, two or three double bonds;

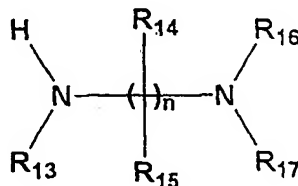
"n" is an integer ranging from 1 to 4, wherein the carbon chains which "n" represents may be either linear or branched.

10 which comprises reacting a compound of formula (VII) given below,



(VII)

wherein all the symbols are as defined earlier; and X is halogen, preferably chloro, bromo or iodo; with a compound of formula (III) or its acid addition salt,



(III)

wherein all the symbols are as defined above ;

23. A process for the preparation of compound of formula (I)

wherein A may be  $-CH_2-$ ,  $-C=O$  or  $-SO_2-$ ;  $R_{11}$  and  $R_{12}$ , refer to substitutions on the carbon whenever A is  $CH_2$ ;

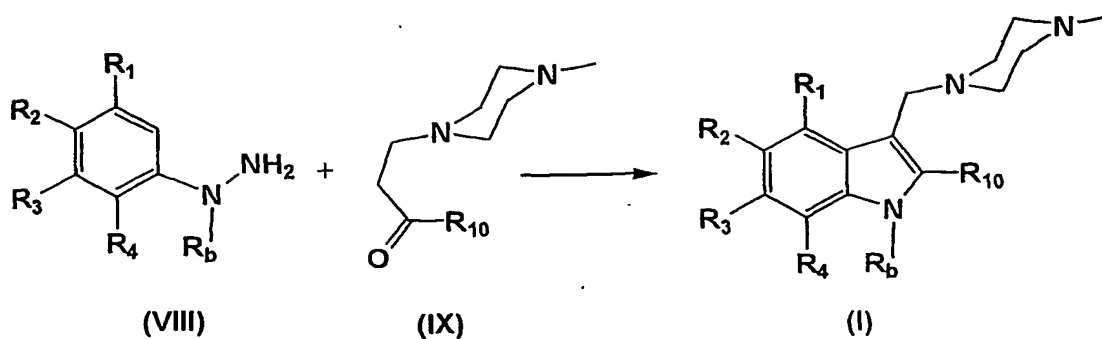
Wherein,  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$ ,  $R_{14}$  and  $R_{15}$  may be same or different and each independently represent hydrogen, halogen, oxo, thio, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups selected from linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkynyl,  $(C_3-C_7)$ cycloalkyl,  $(C_3-C_7)$ cycloalkenyl, bicycloalkyl, bicycloalkenyl,

(C<sub>1</sub>-C<sub>12</sub>)alkoxy, cyclo(C<sub>3</sub>-C<sub>7</sub>)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino, carboxylic acid and its derivatives, sulfonic acids and its derivatives, phosphoric acid and its derivatives; or the adjacent groups like R<sub>1</sub> and R<sub>2</sub> or R<sub>2</sub> and R<sub>3</sub> or R<sub>3</sub> and R<sub>4</sub> or R<sub>5</sub> and R<sub>6</sub> or R<sub>6</sub> and R<sub>7</sub> or R<sub>7</sub> and R<sub>8</sub> or R<sub>8</sub> and R<sub>9</sub> together with carbon atoms to which they are attached may form a five or a six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R<sub>11</sub> and R<sub>12</sub> together with the carbon atoms to which they are attached may form a three to six membered ring, optionally containing one or more double bonds and optionally containing one or more heteroatoms selected from "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms;

R<sub>13</sub>, R<sub>16</sub> and R<sub>17</sub> may be same or different and each independently represents Hydrogen, substituted or unsubstituted groups selected from linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, heterocyclylalkyl; optionally R<sub>13</sub> along with either R<sub>16</sub> or R<sub>17</sub> and the two nitrogen atoms may form a 5, 6 or 7-membered heterocyclic ring, which may be further substituted with R<sub>14</sub> and R<sub>15</sub>, and may have either one, two or three double bonds;

"n" is an integer ranging from 1 to 4, wherein the carbon chains which "n" represents may be either linear or branched.

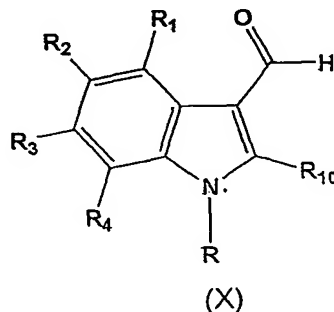
which comprises reacting a compound of formula (VIII), or its salt wherein all the symbols are as defined earlier;



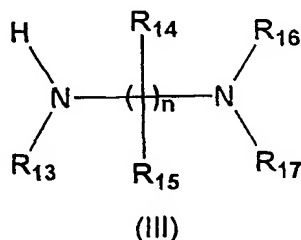
with the ketone amine compound of formula (IX), wherein all the symbols are as defined above ;

- 5 24. A process for the preparation of compound of formula (I) according to claim-1 wherein A is CHCN and derivatives thereof which comprises reacting a

compound of formula (X),



wherein all the symbols are as defined earlier; with a compound of formula (III) or its acid addition salt,

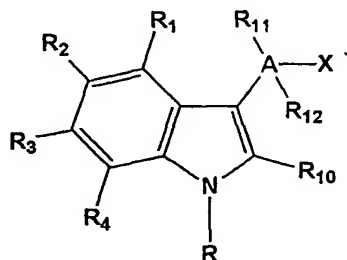


- 15 wherein all the symbols are as defined earlier; in presence of aqueous solution of sodium bisulfite and sodium cyanide.

25. A process for the preparation of compound of formula (I) wherein A is -CH<sub>2</sub>- which comprises chemically or catalytically reducing compounds wherein A = CO., wherein all the symbols are as defined above..

26. A process according to Claim-19 to Claim-25, comprising of carrying out one or more of the following optional steps: i) removing any protecting group; ii) resolving the racemic mixture into pure enantiomers by the known methods and iii) preparing a pharmaceutically acceptable salt of a compound of formula (I) and/or iv) preparing a pharmaceutically acceptable prodrug thereof.

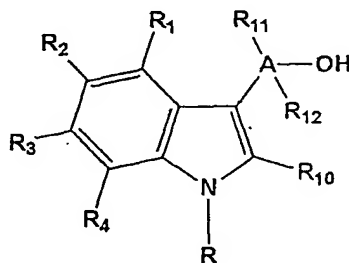
27. Novel intermediates defined by general formula (II),



(II)

wherein all the symbols are as defined earlier; and X is halogen, preferably chloro, bromo or iodo.

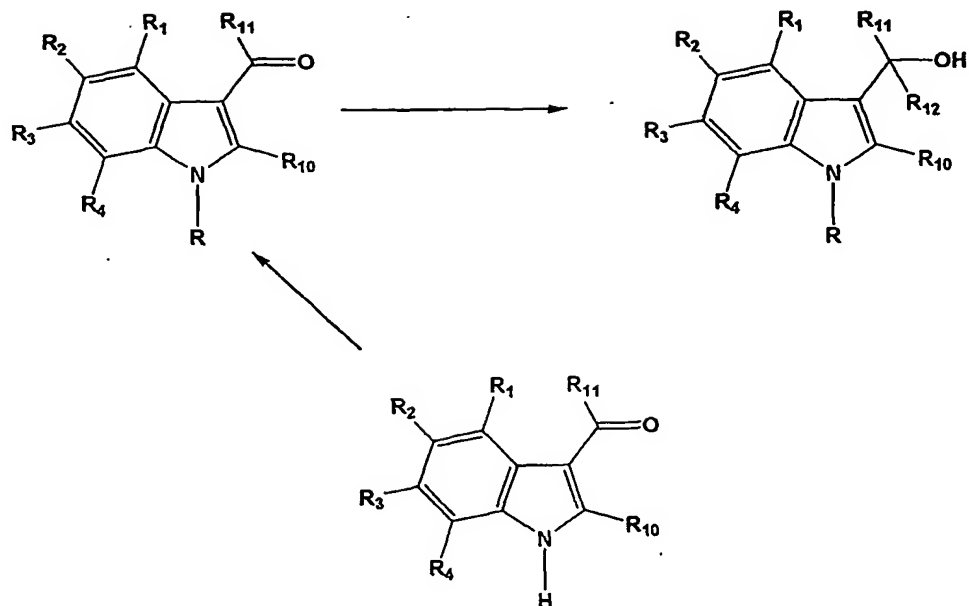
28. Novel intermediate of the general formula (XI)



(XI)

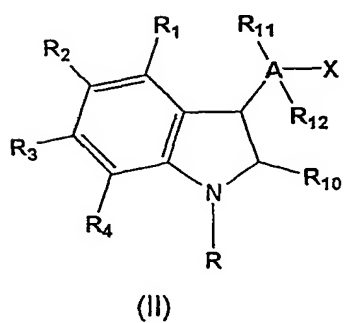
wherein all the symbols are as defined earlier.

29. A process for preparing the novel intermediates of general formula (XI), by first protecting Nitrogen atom of indole ring and then carrying out reduction using sodium borohydride according to the known procedures in the art.

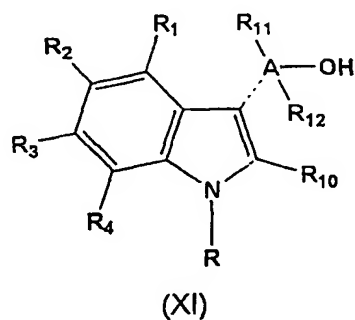


30. A process provided for the preparation of novel intermediate of the general formula (II),

5



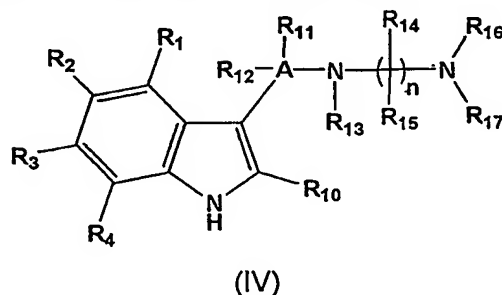
10 which comprises halogenating using thionyl chloride. a compound of general formula (XI),



wherein all the symbols are as defined earlier. e.

15

31. Novel compounds of general formula (IV) is defined below,



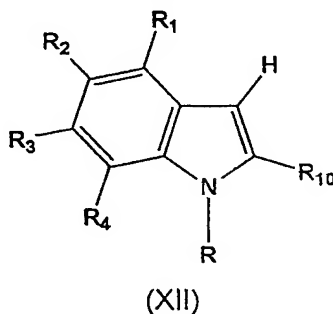
wherein all symbols are as defined earlier.

5 32. A process provided for the preparation of novel intermediate of the general formula (IV) according to any one of the routes.

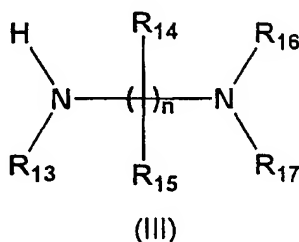
Route 1: Deprotection of compounds of formula (IV) where R = p-toluenesulfonyl group to obtain compounds of formula (IV), wherein R = H

Route 2: reacting compounds of formula (IV) where R = an alkanoyl radical having 2 - 4 carbon atoms, with a basic agent;

Route 3: reacting a compound of formula (XII)

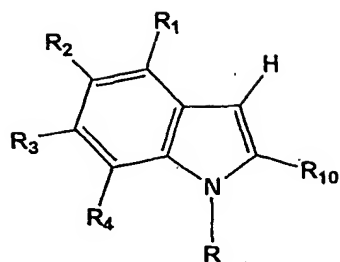


wherein all symbols are as defined earlier; with a compound of formula (III) given below and sodium cyanide,



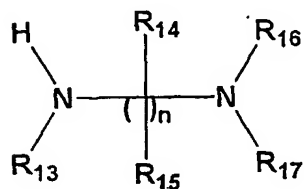
where all symbols are as defined earlier, compounds of formula (IV) wherein A = -CHCN- may be prepared ; and

Route 4: reacting a compound of formula (XII)



(XII)

where all symbols are as defined earlier; with a compound of formula (III) given below and formaldehyde,



(III)

wherein all symbols are as defined earlier, compounds of formula (IV) wherein A = -CH<sub>2</sub>- may be prepared.